



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,528	03/07/2001	Mary Rose Woodhead	C70237D1	4127
7590 11/03/2003				
GlaxoSmithKline Corporate Intellectual Property - UW2220 P.O. Box 1539 King of Prussia, PA 19406-0939			EXAMINER SWITZER, JULIET CAROLINE	
			ART UNIT 1634	PAPER NUMBER

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/800,528	WOODHEAD ET AL.	
	Examiner	Art Unit	
	Juliet C. Switzer	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is written in response to applicant's correspondence submitted 7/23/03. Claim 18 has been added. Claims 16 and 18 are pending. Applicant's amendments and arguments have been thoroughly reviewed, but are not persuasive for the reasons that follow. All previous rejections are withdrawn and new rejections are set forth. **This action is final.**

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houck *et al.* (US 4943674) in view of Graham *et al.* (Plant Cell, Tissue and Organ Culture 24:91-95, 1991).

Houck *et al.* teach that "it is frequently desirable to be able to control expression at a particular stage in the growth of the plant or in a particular plant part (Col. 1, lines 28-30)," and that in order to do this regulatory regions are required which afford the desired initiation of transcription in the appropriate cell types (Col. 1, lines 35-40). Specifically they teach that the ability to manipulate the phenotype of fruits is interest so as to provide fruit which will have improved aspects for storage, handling, cooking, etc. (Col. 1, lines 45-49). To this end, Houck *et al.* teach a method for identifying promoters differentially expressed in fruit tissue which comprises the steps of

- a) isolating mRNA from ripening fruit (Col. 6, lines 45-60);
- b) preparing a cDNA library from the isolated mRNA (Col. 6, lines 45-60);
- c) differentially screening the library from b) to identify genes expressed during the ripening period (Col. 6, line 53-Col. 7, line 6)
- d) screening a genomic library with probes prepared from cDNA identified according to step c) to isolate the corresponding gene and its promoter region (Col. 8-Col. 9, Example 4).

With regard to claim 18, Houck *et al.* teach the steps of (e) transforming a plant cell with a DNA sequence comprising the promoter region isolated in step (d); and (f) regenerating a whole plant from the transformed cell (col. 13-14).

Houck *et al.* exemplify this method using tissue from a tomato, however, they do not teach a method for identifying similar promoters for effecting higher levels of transcription in blackcurrant fruits.

Graham *et al.* teach transgenic blackcurrant (*Ribes nigrum*) plants. It would have been prima facie obvious at the time the invention was made to have used the promoter isolation method taught by Houck *et al.* to isolate fruit specific genes from blackcurrant. One would have been motivated to isolate such promoters by the teachings of Houck *et al.* concerning the desirability to be able to control expression of genes in fruits in order to manipulate the phenotypes of such fruits, and the demonstration by Graham *et al.* of the successful transformation of blackcurrant. Furthermore, the ordinary practitioner would have been motivated to isolate such promoters to impart useful characteristics such as pest or disease resistance to the fruits of blackcurrant, a fruit that is grown as an agricultural fruit, as suggested by Graham *et al.* (p. 95).

Response to Remarks

Applicant points out, and the examiner does not dispute, that Houck *et al.* do not mention or consider climacteric or non-climacteric nature of certain ripening fruits. However, as mentioned in the previous office action, the fact that blackcurrant is a climacteric fruit is an inherent property of the fruit, whether or not that was known in the prior art at the time the invention was made. The fundamental question in this case is would it have been *prima facie* obvious to have applied the methods of Houck *et al.* to blackcurrant fruits? The answer is yes, for the reasons discussed in the rejections. The references provide each element of the claim and a motivation to combine the references, that is in order to isolate fruit specific promoters from a type of fruit that was a known target for plant transformation. Such a combination would have led to the claimed method which meets each of the steps set out in the method steps of the claims, and therefore would necessarily accomplish the goal set forth in the preamble of the claims.

Applicant also points out that prior to the work of the instant inventors, blackcurrant was not known to be a non-climacteric fruit. However, this is a necessary property of blackcurrant fruits. The teachings of Houck *et al.* in view of Graham *et al.* provide ample teaching and motivation to complete the claimed methods, whether or not it was known that blackcurrant was in fact a non-climacteric fruit. Completing the method taught by Houck *et al.* in view of Graham *et al.* would have led to the isolation of promoters from blackcurrant fruit, and thus accomplished the goal set forth in the preamble of the claimed methods.

Conclusion

4. No claims are allowed.
5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

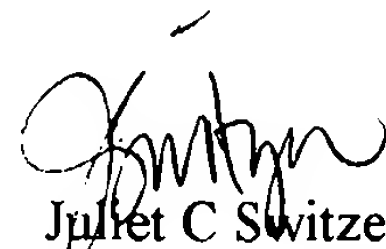
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliet C Switzer whose telephone number is 703 306 5824. The examiner can normally be reached on Monday through Friday, from 9:00 AM until 4:00 PM.

Art Unit: 1634

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached on 703 308 1152. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305 3592 and (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0196.



Juliet C Switzer
Patent Examiner
Art Unit 1634

October 28, 2003



JEFFREY FREDMAN
PRIMARY EXAMINER